

Systems and methods to prevent products from counterfeiting and surplus production also of tracking their way of distribution.

Abstract

A simple and cost effective system of marking products for authentication and tracking purpose is described. The system requires computer hardware and software modules where the generation, encryption, decryption and verification of sequences can be carried out. The authenticity of products is assured by delivering encrypted sequences generated by a computer system with each piece of product. Depending on the kind of product, its value and its production process the economically best solution can be chosen to deliver or affix the encrypted sequence with the product. Authorities, dealer or consumer can carry out the proof of authenticity automatically or manually in real-time at any place simply by input the encrypted sequence. The sequence can be input into an appropriate input device and transmitted via any kind of data connection to a computer system where the test is carried

out. By testing the consistency of encrypted sequences, which are delivered with products and subsequent tests by comparing data retrieved from the input device with data stored on a computer system a product can be determined as original or as falsification. The second test is necessary to recognize illegal usage of valid sequences by counterfeiters. The result of a proof of authenticity is reported in real time back to the enquirer who carries out the test or to other defined parties. In addition the encrypted sequence can be adopted to prevent manufacturer to produce more products as ordered by a customer. Further more the way of distribution can be determined and used as criteria to determine a product as original or as falsification.